

**PRACTICE TEST 5 –FINAL EXAM**Beginning and Intermediate Algebra by Messersmith, 4<sup>th</sup> edition

1. Evaluate.  $135 - 2(11 - 7)^3$
2. Find the area of a rectangle with length 11 feet and width 12 feet. Include the correct units.
3. Evaluate the expression when  $x = 12$  and  $y = 8$ ;  $\frac{x + 5y}{x - 8y}$
4. Simplify:  $-2(x - 3) - (3 - 8x)$

**Simplify the expression. Write answers with positive exponents only:**

5.  $(-7t^8)(4t^5)(-3t^9)$

6.  $\left(\frac{2}{3}t^9\right)^3\left(\frac{9}{8}t^6\right)^2$

7.  $\frac{15t^9u^{-4}}{4v^{-5}w^3}$

8.  $\frac{15u^{13}}{27u^7}$

**Solve each equation:**

9.  $r + 4 = -3$

10.  $3y + 1 = 7$

11.  $3(u - 1) + 4(u - 3) = -8$

12.  $\frac{3}{8}(3n + 4) + \frac{5}{3}n = \frac{2}{3}(7n + 9)$

13.  $0.09(2n - 2) - n = 0.24(7 - 3n)$

14.  $\frac{4}{9} + \frac{2}{3}(c - 1) + \frac{5}{9}c = \frac{2}{9}(5c + 3)$

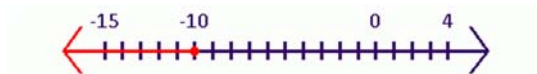
15. At a ribbon-cutting ceremony, the mayor cuts a 72 ft ribbon into two pieces so that the length of one piece is 16 ft shorter than the other. Find the length of the shorter piece.
16. Substitute the given values into the formula  $V = \frac{1}{3}\pi r^2 h$ . If  $V = 144\pi$ ,  $r = 4$ , find  $h$ .
17. Solve the inequality. Graph the solution set and write the solution set in interval notation.  
 $7 + 2y \leq -13$
18. Determine if the ordered pair  $(-5, \underline{\hspace{1cm}})$  is a solution of the equation.  $y = 6x + 9$
19. Complete the table of values and graph the equation.  $y = -4x + 4$

x	y
-1	
0	
1	
2	

20. Find the slope of the line that passes through the given points.  $(-9, -7)$  and  $(-7, -13)$
21. Put the equation into slope-intercept form and graph.  $x + 3y = -18$
22. Write an equation of the lines that are parallel and perpendicular to the line  $4x + 2y = 5$  and containing the point  $(4, -7)$ . Write the answer in slope-intercept form.
23. Add the polynomials.  $(14x^4 - 3x^3 + x^2 - 8x - 6) + (-4x^4 - 9x^3 - 5x^2 + 8x + 11)$
24. Subtract the polynomials.  $(-5y^3 - y^2 - 12y) - (-11y^3 + 9y^2 - 4y)$
25. Multiply:  $7t^3(5t^4 - 10t^2 + 17)$
26. Multiply:  $(3z - 5)(6z - 1)$
27. Multiply:  $(p + 4)^2$
28. Divide:  $\frac{10s^2 + 57s + 61}{2s + 9}$
29. Factor by grouping:  $3tu + 24t - 2u - 16$
30. Simplify.  $\sqrt{100 + 21}$

# MATH0361 Practice Test 5 Answers:

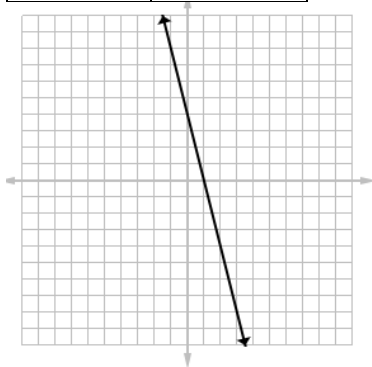
- 1) 7
- 2)  $132 \text{ ft}^2$
- 3) -1
- 4)  $6x + 3$
- 5)  $84t^{22}$
- 6)  $\frac{3}{8}t^{39}$
- 7)  $\frac{15t^9v^5}{4u^4w^3}$
- 8)  $\frac{5u^6}{9}$
- 9)  $r = -7$
- 10)  $y = 2$
- 11)  $u = 1$
- 12)  $n = -\frac{12}{5}$
- 13)  $n = -18.6$
- 14)  $c = 8$
- 15) 28 ft
- 16)  $h = 27$
- 17)  $(-\infty, -10]$



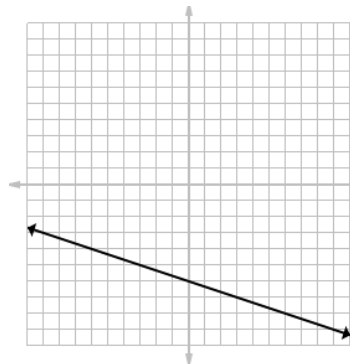
- 18)  $(-5, -21)$

- 19) 

x	y
-1	8
0	4
1	0
2	-4



- 20)  $m = -3$
- 21)  $y = \frac{-1}{3}x - 6$



- 22) Parallel:  
 $y = -2x + 1$   
Perpendicular:  
 $y = \frac{1}{2}x - 9$

- 23)  $10x^4 - 12x^3 - 4x^2 + 5$
- 24)  $6y^3 - 10y^2 - 8y$
- 25)  $35t^7 - 70t^5 + 119t^3$
- 26)  $18z^2 - 33z + 5$
- 27)  $p^2 + 8p + 16$
- 28)  $5s + 6 + \frac{7}{2s + 9}$
- 29)  $(u + 8)(3t - 2)$
- 30) 11